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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/729,800	12/06/2000	Kuniya Kaneko	032218-011	8148

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EXAMINER

GRAYSAY, TAMARA L

ART UNIT	PAPER NUMBER
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3623

DATE MAILED: 12/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/729,800

Applicant(s)

KANEKO ET AL.

Examiner

Tamara L. Graysay

Art Unit

3623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) 30-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 December 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 03 April 2001.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I in the reply filed on 21 October 2004 is acknowledged.
2. Due to an inadvertent typographical error, the claims associated with Groups I and II are not correct. Claim 30, drawn to a planning system that plans a sales or production scheme, should have been included with Group II, not Group I. Therefore, claims 30-35 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 21 October 2004.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d).

Information Disclosure Statement

4. The information disclosure statement filed 03 April 2001 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each document listed that is not in the English language (JP-08-123535). It has been placed in the application file, but the information referred to therein has not been considered.

Drawings

5. The drawings are objected to:
 - a. because the arrowed lines out of decision step S314 should be labeled yes/no.

- b. as failing to comply with 37 CFR 1.84(p)(5) because Fig.5 includes the following reference characters not mentioned in the description: TT2, TT3, TT4, UH2, HTL.
- c. as failing to comply with 37 CFR 1.84(p)(5) because Fig.14 includes the following reference characters not mentioned in the description: 21, 22, 23, 24, 25, 26, 27, 31, 32, 33, 34, 35, 36, 37, 41, 42, 43, 44, 45, 46, 47

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

- 6. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.
- 7. The disclosure is objected to because of the following informalities:
 - a. P.5, l.11, "numb" should be 'number'
 - b. P.10, l.15, "t" should be 't'
 - c. P.11, l.4, "c3" should be 'c2'
 - d. P.12, l.8, "parts-producing steps 122, 124" should be 'product-producing steps 112, 114'
 - e. P.27, l.6, "S116" should be 'S316'

Art Unit: 3623

- f. P.27, eq.(2), applicant is requested to verify the third parenthetic expression which uses $n-1$ rather than $n+1$
- g. P.31-44, reference characters mentioned are not the same as the reference characters depicted in Fig.14

[The examiner notes that amending Fig.14 by simply adding 10 before each number will not obviate the rejection because reference characters 1020, 1030, and 1040 are not depicted; and, the legend description is not consistent with the specification. For example, 34 in Fig.14 is directed to box E which is designated in the legend as supply scheme; however, 1034 at p.31, l.5 mentions purchase scheme. Also, applicant should review the description at p.39, l.17-20, and make corrections to ensure consistency among the figure, the legend, and the specification.]

- h. P.36, l.17, 'plan' is misspelled
- i. P.37, l.1, "1031" should be '1032'

Appropriate correction is required.

Claim Objections

- 8. Claims 23 and 24 are objected to because of the following informalities:
 - a. claim 23, line 2, and claim 24, line 5, "at least of amount ..." should be 'at least an amount ...' for clarity;
 - b. claims 23 and 24, line 1, 'means' should be inserted after "seventh" for clarity;

Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Art Unit: 3623

9. Claims 8-14, 16, 28 and 29 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

a. Regarding claims 8-14 and 28, the basis of this rejection is set forth in a two-prong test: (1) whether the invention is within the technological arts; and (2) whether the invention produces a useful, concrete, and tangible result.

As to the first prong, for a claimed invention to be statutory the claimed invention must be within the technological arts. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural phenomena) that do not apply, involve, use, or advance the technological arts fail to promote the “progress of science and the useful arts” (i.e., the physical sciences as opposed to social sciences, for example) and therefore are found to be non-statutory subject matter. For a process claim to pass muster, the recited process must somehow apply, involve, use, or advance the technological arts. In the present case, even though a practical application of setting scheme data so as to increase the profitability index of the supply chain is recited in process claims 8-14 and 28, the claimed process lacks a tie to any technological art. The process claims do not recite any limitations that involve a technology, and the claimed process steps do not require use of any technology to implement the invention. For example, a human being, using pencil and paper can manually perform the steps.

As to the second prong, for a claimed invention to be statutory the claimed invention must produce a useful, concrete, and tangible result. In the present case, the claimed invention includes calculating a profitability index of a supply chain and setting scheme data so as to increase the profitability index.

In conclusion, process claims 8-14 and 28 meet the second prong of the two-prong test because they produce a useful, concrete, and tangible result, however, they do not meet the first prong because they are not within a technological art, as explained above. Therefore, process claims 8-14 and 28 are directed to non-statutory subject matter.

b. Regarding claims 16 and 29, even though a practical application of setting scheme data so as to increase the profitability index of the supply chain is recited in apparatus claims 16 and 29, the claimed apparatus lacks a tie to any technological art. The apparatus claims do not recite any limitations that involve a technology. For example, paper that the program data is printed on is a form of computer-readable medium that does not apply, involve, use, or advance the technological arts. The paper is a type of computer-readable medium because the paper can be optically scanned in order to electronically capture the program data and then the scanned data can be processed and stored in a computer memory.

The computer-readable medium as broadly recited in claims 16 and 29, is nonfunctional descriptive material, i.e., mere data. The nonfunctional descriptive material (computer program data) stored on a computer readable medium is merely carried on the medium, not structurally or functionally interrelated to the medium or the computer. Therefore, apparatus claims 16 and 29 are directed to non-statutory subject matter.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-4, 6-11, 13-17, and 19-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lilly (US-5787000) in view of Sellers (US-5311438).

a. Regarding claim 1, Lilly discloses a computerized demand-supply scheme planning apparatus comprising:

- i. first means for storing data (means for receiving data in a computer c.3, 1.31-43, the data includes material, and other inherent costs, and date/time constraints);
- ii. second means for inputting an order receipt scheme (work order c.4, 1.39-44;
- iii. third means for determining scheme data based on order receipt scheme data and a predetermined parameter (manufacturing process data related to orders received, products produced and supplied, product availability, e.g., c.4, 1.34-38, c.5, 1.24 to c.6, 1.25); and,
- iv. fifth means for changing the parameter (resource and material availability are parameters that change, for example, the global scheduling system includes means for changing the priority of work orders based on the assigned finish date/time c.9, 1.1-25).

Lilly lacks the fourth and sixth means. Sellers teaches a financial analysis that includes means for calculating a profitability index (a basic financial parameter, such as the profitability index, c.113, l.31 to c.114, l.47). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lilly to include means for calculating a profitability index, such as suggested by Sellers, in order to perform a financial analysis. Also, the examiner notes that Lilly discloses means for determining the “best fit” for each work order (c.2, l.41-44) implying that the work order would be met using a scheme that best suits the business. The examiner takes official notice that it is well known in for-profit business that increased profit is a primary business goal. Therefore, it would have been obvious to further modify the Lilly and Sellers combination to include a system that maximizes the profitability index because a maximized profitability index means that the scheme is worth more than the initial cost thereby increasing profits of the company implementing the apparatus.

- b. Regarding claims 8, 15 and 16, the above combination as applied to claim 1 discloses a method, computer, and storage device.
- c. Regarding claims 2 and 9, Lilly discloses means for storing product and part data (material data c.5, l.43-54).
- d. Regarding claims 3 and 10, Lilly discloses a service, as broadly recited, insofar as the manufacturer is providing the items requested in the work order to the customer.
- e. Regarding claims 4 and 11, Lilly discloses an actual work order placed, and the scheme is based on receipt of the order (work order information c.5, l.55-67), stock

amount (material requirements c.6, 1.50-64); and target stock amount (material availability c.6, 1.66 to c.7, 1.5).

f. Regarding claims 6, 7, 13, and 14, Lilly discloses storing an order receivable amount and determining a scheme based on the order receivable amount (work order for manufacturing products in a manufacturing process based on the start date/time and finish date/time together with the resource and material requirements for the work order c.2, 1.33-40).

g. Regarding claims 17 and 19-29, the rejection applied to the above claims is applied to these claims as well. Additionally, the examiner notes that Lilly discloses the use of suppliers as a resource material (c.4, 1.1-7). The examiner takes official notice that the costs associated with manufacturing a product or subassembly would inherently include transportation or shipment costs for each step in a manufacturing process. For example, a scheme for a business that manufactures a product that requires raw materials or sub-parts would take into consideration the time (shipping from the supplier to the manufacturer and from the manufacturer to the purchaser) and costs (freight, insurance, etc.) associated with obtaining raw materials or sub-parts included in the assembly of the product to be provided to the purchaser.

h. Further, regarding claim 27, Lilly discloses a means for displaying information generated by the apparatus.

11. Claims 5, 12, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lilly (US-5787000) and Sellers (US-5311438) as applied to claims 4, 11, and 17, respectively, above, and further in view of Edstrom (US5233533).

Lilly, as modified by Sellers, discloses the use of means for determining the amount of materials needed for each work order and prioritizing the work based on a linear or global scheduling scheme. The scheduling system exchanges information with the material system so that materials needed at a certain date/time are available. Edstrom teaches an allocation of inventory so as to determine a target amount (net amount available c.14, 1.62 to c.15, 1.6) on a daily basis. It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the Lilly-Sellers combination to include a target stock as the parameter that is changed when determining the scheme that maximizes the profitability index, such as suggested by Edstrom's daily computation of the available stock amount, in order to ensure that the stock amount is not below a desired level based on projected or historical work order information.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
- Aykin (US-6516301) teaches an inventory material management scheme that includes target inventory and time considerations. Product manufacture may be in-house or outsourced.
 - Feigin (US-6006196) teaches an inventory planning scheme that includes future inventory estimates and levels in a distribution network.
 - Kudla (article, Capital rationing in small business) defines a profitability index as the ratio of the present value of cash flows to the project's initial cost, and teaches that a

Art Unit: 3623


profitability index greater than 1 is desirable because the project's worth is greater than its initial costs.

- Kagami (US-5237496) teaches inventory control including excess/insufficient amounts.
- Ramaswamy (US-5897624) teaches lower inventory costs associated with inventory control methods.
- Lee (US-5712985) teaches production schedule control using demand forecasting.
- Yamamoto (US-5914878) teaches production control that takes into consideration the need for raw materials in a timely manner.
- Fox (US-6061691) teaches inventory management system that includes price and time negotiations for particular items.
- Ettl (US-6078900) teaches minimizing costs associated with inventory holding and stock levels.
- Hogge (US-5280425) teaches a system for generating a plurality of production plans including cost, quantity, and time constraints. The factory capacity to be less than or equal to the maximum factory capacity. Plans that do not meet a particular constraint are discarded (c.2, l.45-48). Also, Hogge suggests no excess inventory (c.3, l.31-32), i.e., a target inventory goal.
- Litt (US-5148370) teaches variable production constraints.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamara L. Graysay whose telephone number is (703) 305-1918. The examiner can normally be reached on Tue - Fri from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz, can be reached on (703) 305-9643. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


tg 12/23/04


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